

CLAIMS

1. A process for the preparation of a metal-organic compound, comprising at least one imine ligand, characterized in that an imine ligand according to formula 1 or the HA adduct thereof, wherein HA represents an acid, of which H represents its proton and A its conjugate base, is contacted with a metal-organic reagent of formula 2 in the presence of at least 1, respectively at least 2 equivalents of a base, with

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 $Y=N-R$ 

as formula 1,

wherein Y is selected from a substituted carbon, or nitrogen atom and R represents a substituent, and with

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 $M^V(L_1)_k(L_2)_l(L_3)_m(L_4)_nX$ 

as formula 2,

wherein:

M represents a group 4 or group 5 metal ion

V represents the valency of the metal ion, being 3, 4 or 5

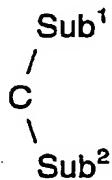
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$L_1$ ,  $L_2$ ,  $L_3$ , and  $L_4$  represent a ligand or a group 17 halogen atom on M and may be equal or different, X represents a group 17 halogen atom, k, l, m, n = 0, 1, 2, 3, 4 with  $k+l+m+n+1=V$ .

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2. A process according to claim 1 wherein R represents a hydrogen atom and wherein Y is represents a substituent defined by formula 3:

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(formula 3)

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wherein each of Sub<sup>1</sup> and Sub<sup>2</sup> is independently selected from the group consisting of hydrocarbyl radicals having from 1 to 30 carbon atoms; silyl radicals, (substituted) amido radicals and (substituted) phosphido radicals, and wherein Sub<sup>1</sup> and Sub<sup>2</sup> may be linked with each other to form a ring

system

3. A process according to claim 1-2, wherein the base is an amine or a phosphane.
4. A process according to claim 1-3, wherein the base is a dialkylamine, a trialkylamine, a monoarylamine, diarylamine or a triarylamine.
5. A process according to claim 1-4, wherein the base is triethylamine, pyridine, tripropylamine, tributylamine, 1,4-diaza-bicyclo[2.2.2]octane, pyrrolidine or piperidine.
6. A process according to claim 1-2, wherein the base is a carboxylate, a fluoride, a hydroxide, a cyanide, an amide, a carbonate of Li, Na, K, Rb, Cs, or an ammonium salt or a group 2 metal salt of Mg, Ca, or Ba thereof, an alkali metal (Li, Na, K, Rb, Cs) phosphate, or phosphate ester, or their alkoxides or phenoxides, thallium hydroxide, alkylammonium hydroxides or fluorides, or alkali metals, hydrides or carbonates of Li, Na, K, Rb, Cs or group 2 hydrides.
- 10 7. A process according to claim 6, wherein the alkali metal is chosen from Li, Na, or K.
8. A process according to claim 1-2, wherein the base is a group 1, 2, 12, 13 hydrocarbanion.
9. A process according to claim 8, wherein the base an organomagnesium- or an
- 20 20. organolithium compound.
10. A process according to claim 1, 2, 8 or 9, carried out in the presence of at least 3 respectively 4 equivalents of an organolithium- or an organomagnesium compound.
11. A process according to claim 1-10 wherein the reaction is carried out in an
- 25 25. aprotic solvent.
12. A process according to claim 11, wherein the solvent is the base.
13. Process for the preparation of a polyolefin by making a metal-organic compound according to the process of claims 1 – 12, wherein the base is an olefin polymerisation compatible base, which metal-organic compound is
- 30 30. activated anywhere in, or before a polymerisation equipment.
14. Process according claim 13, wherein the metal-organic compound is formed used without purification.
15. Process according to claim 13 or 14, wherein the metal-organic compound is formed in the polymerisation equipment.
- 35 35. 16. Process according to claim 15, in the presence of between 5 and 10 equivalents of the imine or its HA adduct according to formula 1.